THE AUTOMOTIVE EDGE™

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AUTOMOBILE ASSOCIATION™

01.04

2004 Ford F-150

by Michael Hyde & Brook Francisco

The Ford F series pickups have been America's best selling vehicles for the past two decades. The 2004 model is the first redesign of the vehicle in seven years. In 1999 the Ford Passive-Anti-Theft-System (PATS) transponder system was made standard on all F-150 and F-250's. The 2004 models offer a wide variety of option packages, with five different body styles available. The most significant issue for the locksmith is that this is one of the first Ford vehicles using the Ford Controller Area Network (CAN). This means you will need to update your hardware and/or software if you want to be able to program keys for these vehicles.

What is a Controller Area Network (CAN)?

The CAN network is a generic term for the serial bus system that transfers data between different electronic modules on the vehicle. This is known as multiplexing. The CAN allows for one pair of wires to take the place of a large wiring harness, combining multiple signals on this single wire through time division multiplexing. This single wire saves the vehicle manufacturers by reducing material and installation cost, while at the same time increasing reliability and ease of service.

Is Ford the only manufacturer going to this CAN system?

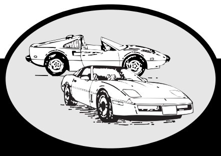
No, Honda and Chrysler have already begun use of CAN systems on the 2003 Accord and 2004 Pacifica, respectively.

Which Ford models are on this CAN system?

The 2004 F-150 and F-250 will be many locksmiths introduction to the Ford CAN system. This system was introduced on the 2003 Ford Focus with the 2.3L engine and will be found on many 2004 models including the Explorer, Taurus and Sable. It is sure to appear on more future models.

Will the locksmith still be able to generate transponder keys for these ford can vehicles?

The locksmith will still be able to generate keys for these vehicles, but it will require a software and/or hardware upgrade, depending on which key programmer you are using. For NGS users this will mean the purchase of the Vehicle Communication Module (VCM) and additional software. As of publication time this module is not yet available but should be available soon through Hickok for about $2500.00. The good news for T-Code owners is that the Ford CAN update has been available for over two months at a reasonable price of less than $650. Contact your local ASP distributor if you need this update.



Issue No.48

Here are the two best websites for Automotive Locksmiths:

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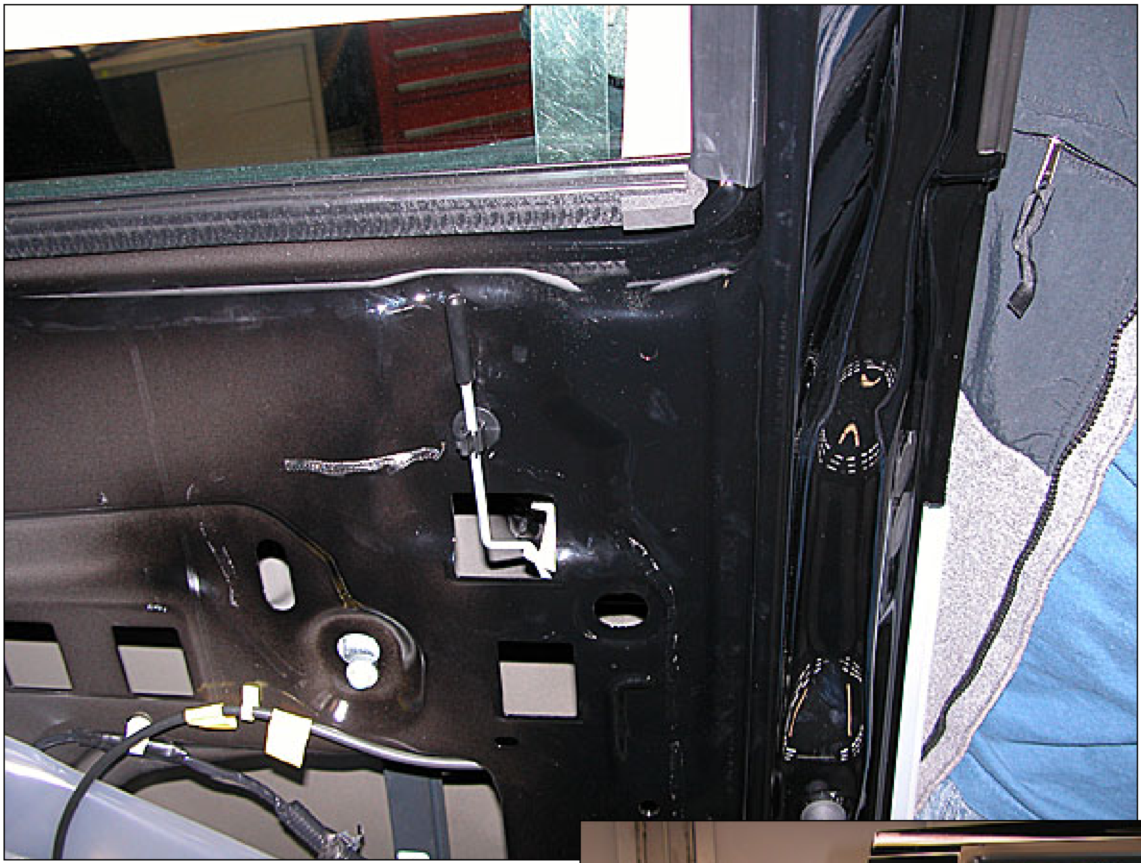
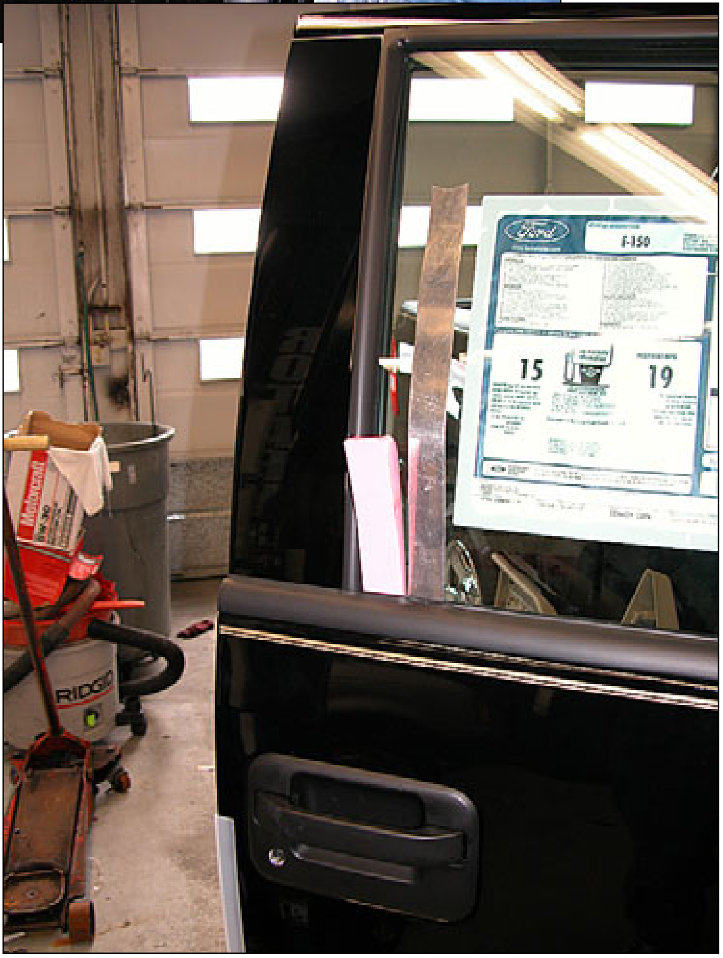
Online Store, Tech Support

www.Laserkey.com
Product & Technology Sales,
Transponder Information Resources



1. Like it's predecessors the 2004 F-150 uses an unshielded vertical lock linkage. This makes opening the vehicle very easy. On the passenger side door I used a standard Slim-Jim to inserted about 4-6 inches down the door, just to the right of the door frame.
The Slim-Jim grabbed the vertical linkage easily and I was in. The Slim-Jim seems to have a bad reputation as a hack-tool in some circles, but I use it often to get into many newer cars and have never had a problem.



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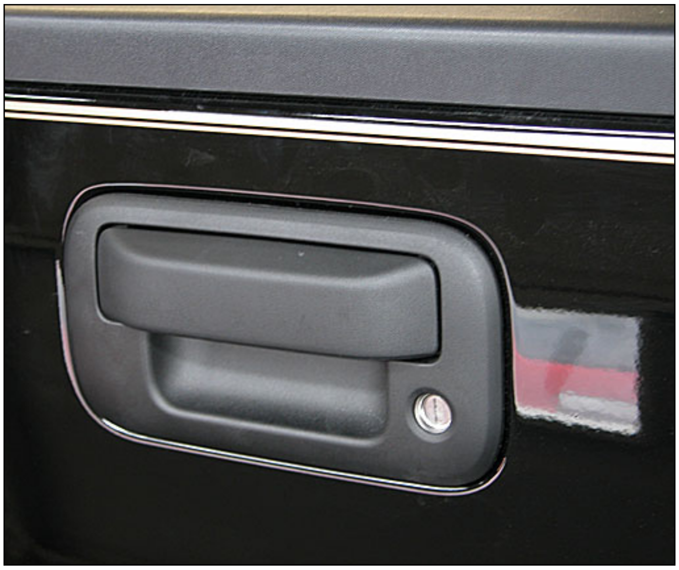
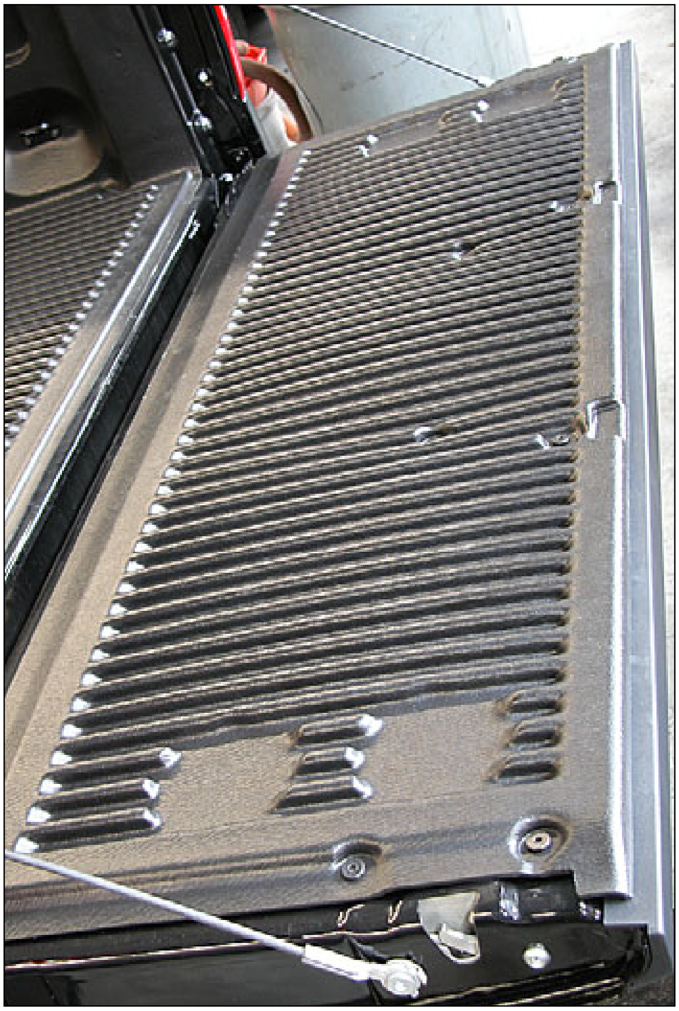
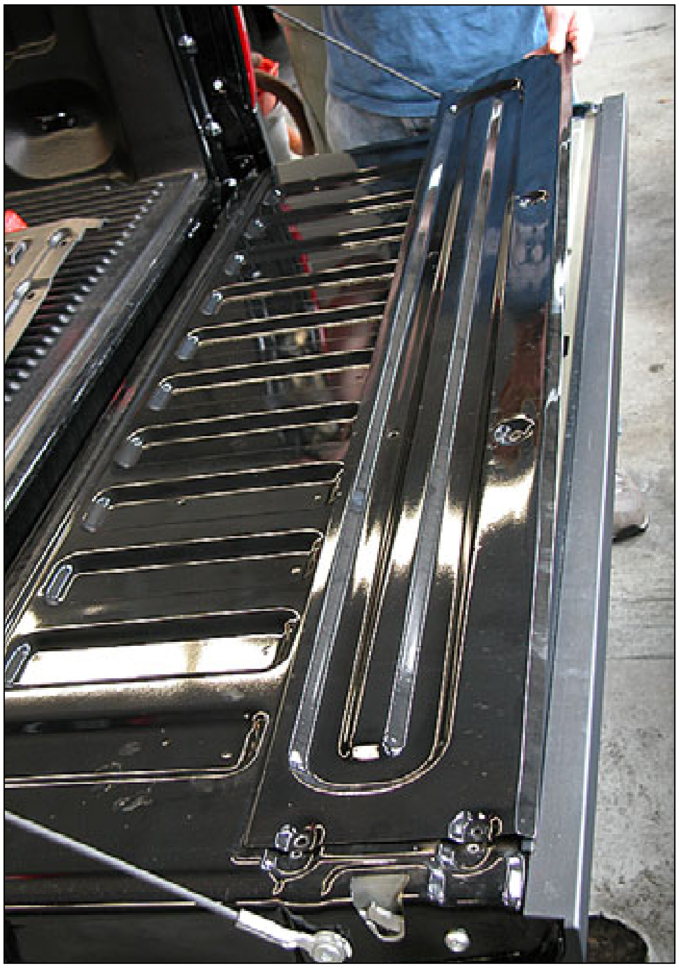
Issue No. 48



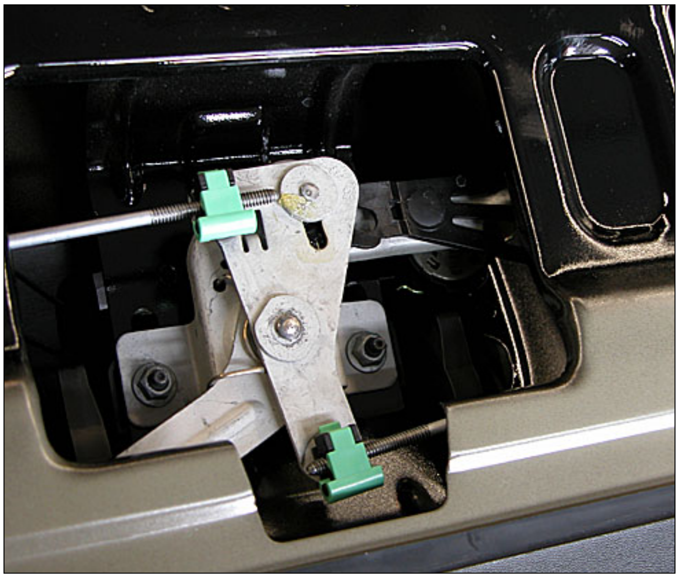
2. The easiest lock to remove is the tailgate lock. This lock is not standard on all models, but it does contain the first six wafers, so you can generate a complete key with this lock and only a small progression. Part number is Strattec #703362.



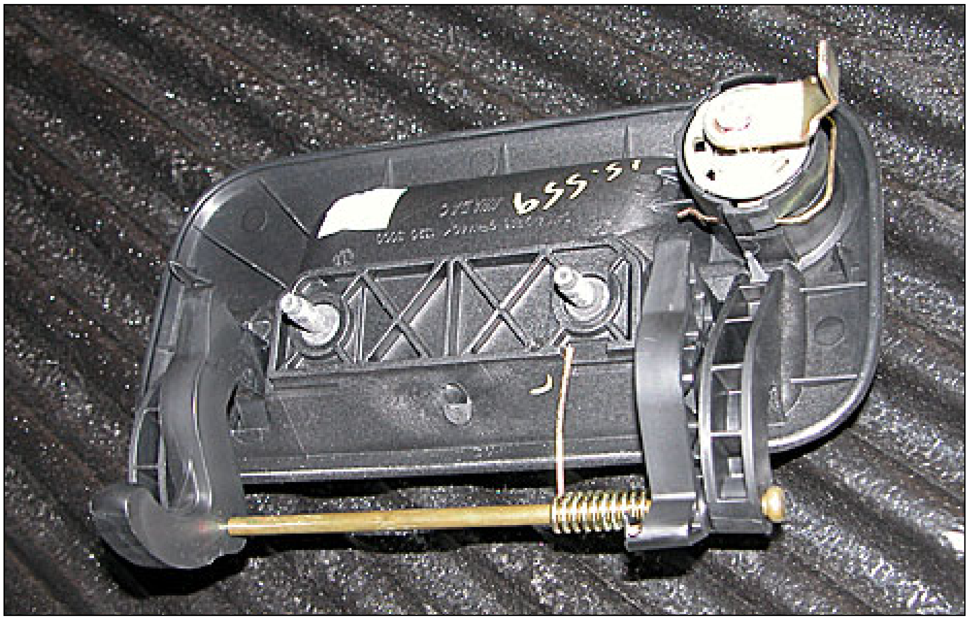
3. Begin by removing the 8 torx bolts that hold on the bed-liner and upper tailgate panel.



4. After the bed-liner is removed, the upper tailgate panel can be removed.

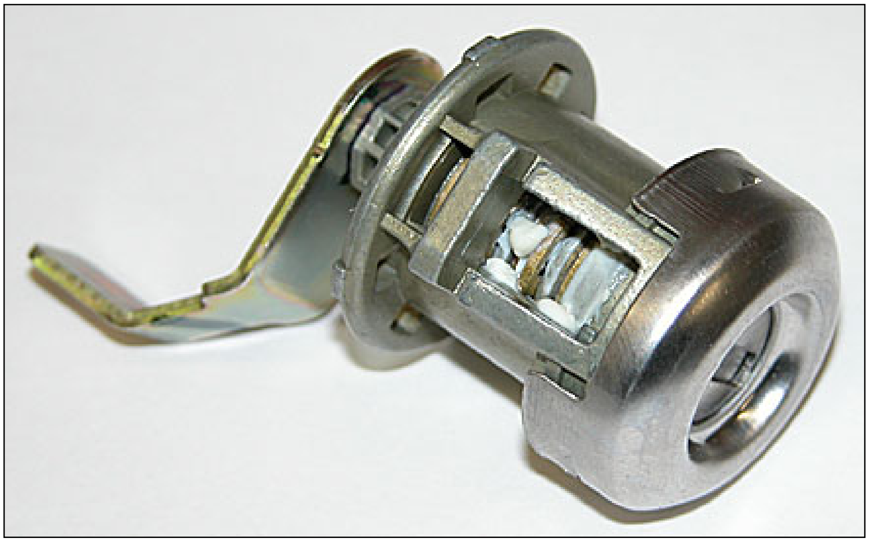


5. You now have access to the tailgate lock assembly and linkages. The lock-assembly is held in place by two 10mm bolts.



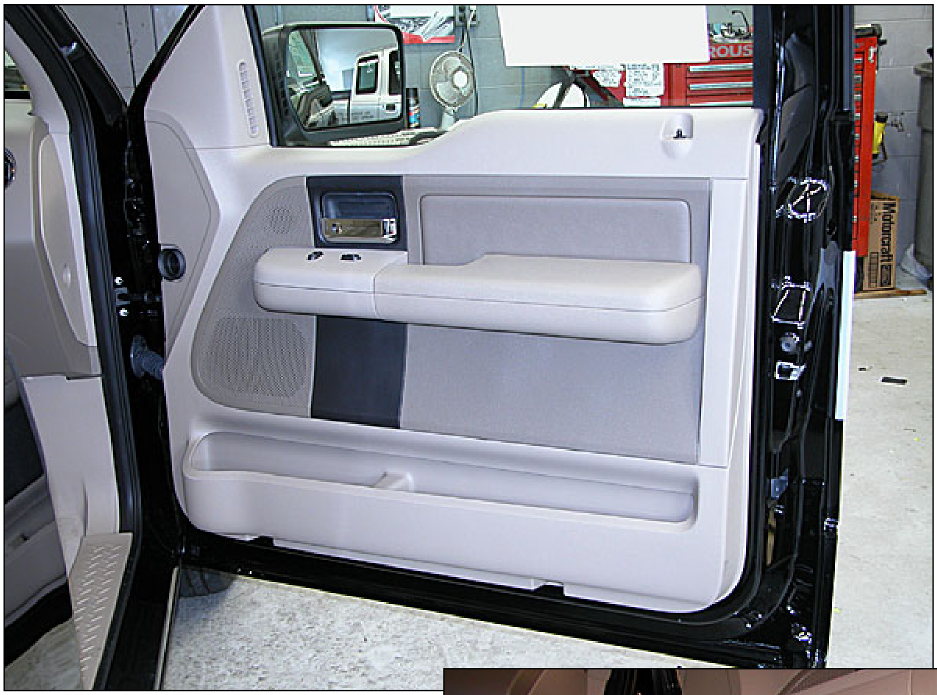
6. After removing the two 10mm bolts the entire lock assembly can be removed. The lock is held in place by a U-shaped clip.

7. This lock contains the first six tumbler positions.

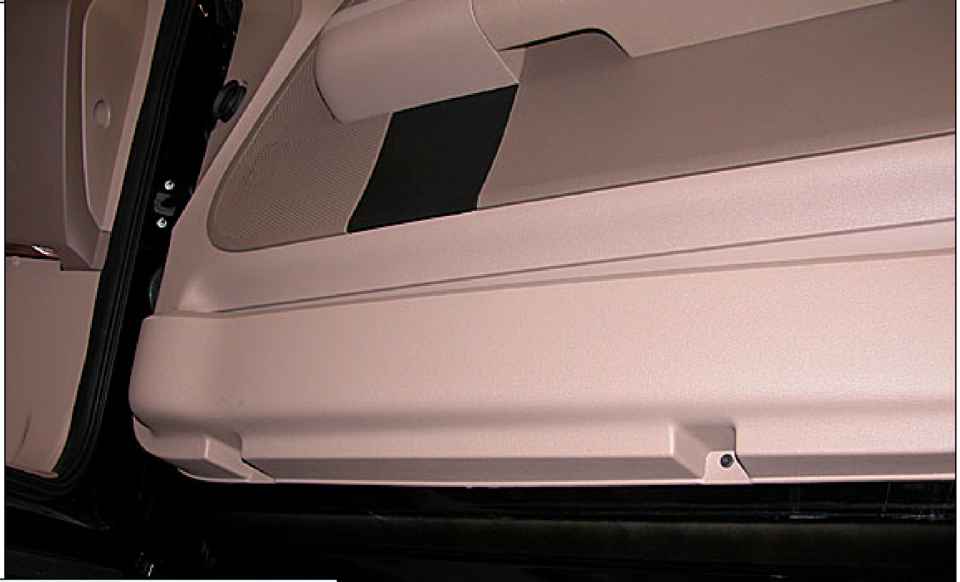


Door Lock Removal

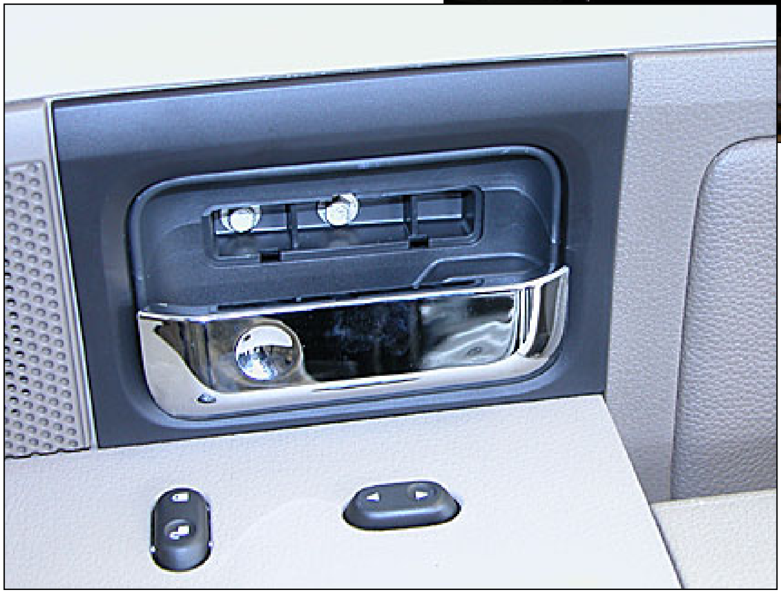
8. The handle on this truck seems to be of a new design. The part number for the cylinder is Strattec #703362, same as the tailgate lock.



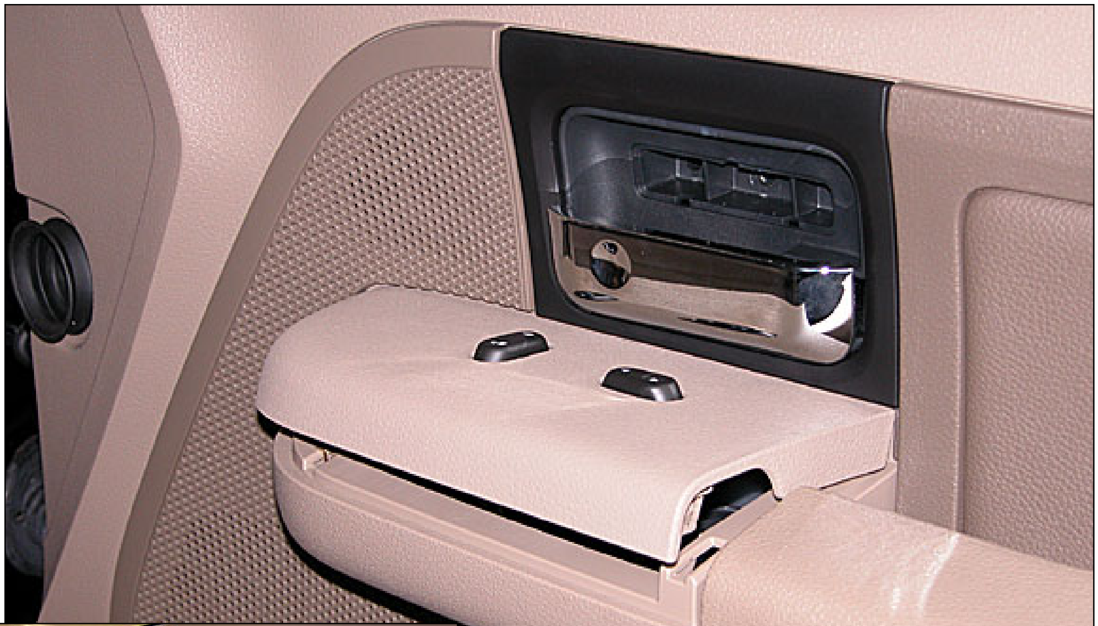
9. You must remove the panel to remove the door lock cylinder.



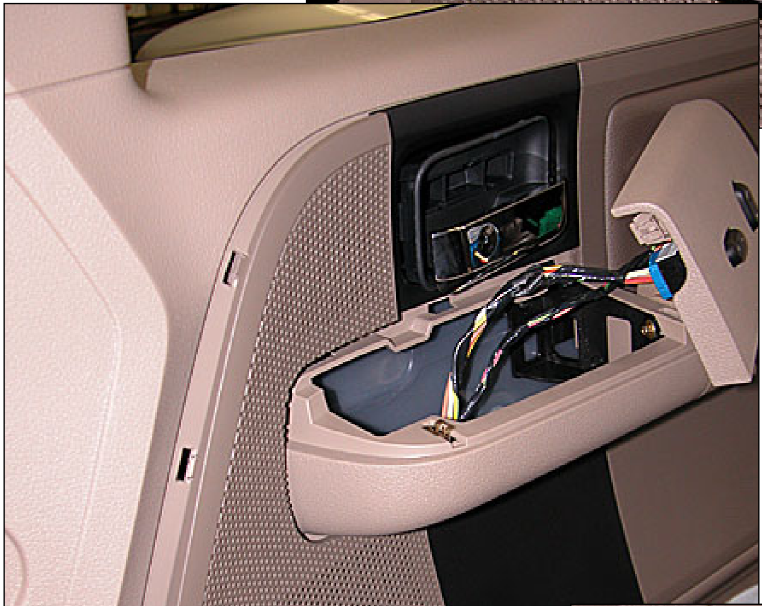
10. Begin by removing the two screws at the very bottom of the panel.



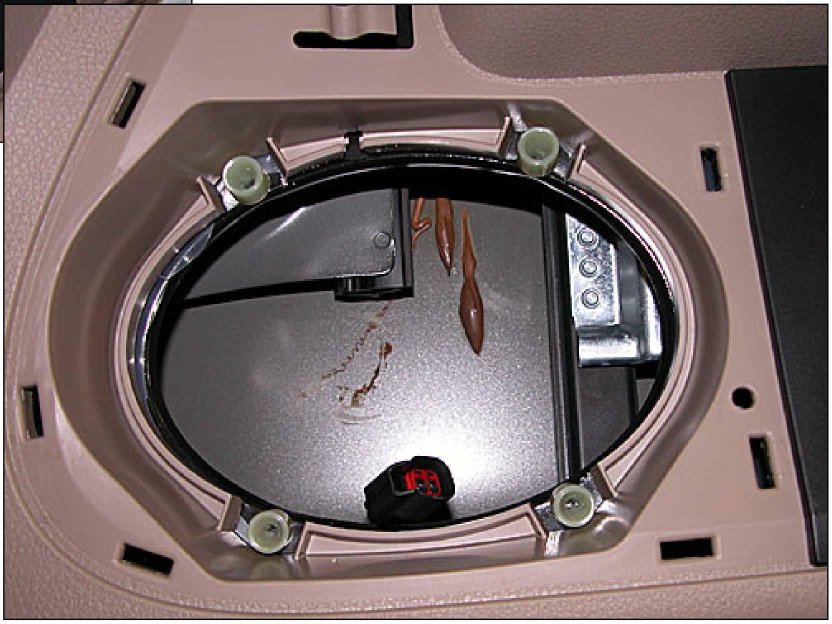
11. Next remove the trim piece behind the inside door handle and the two screws securing the door panel.



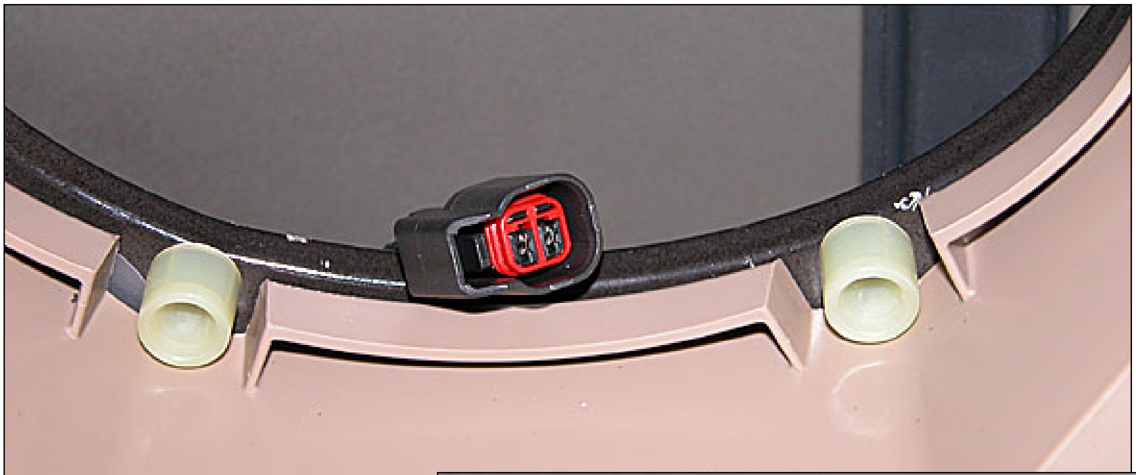
12. Now lift up on the door switch assembly to gain access to another panel screw.

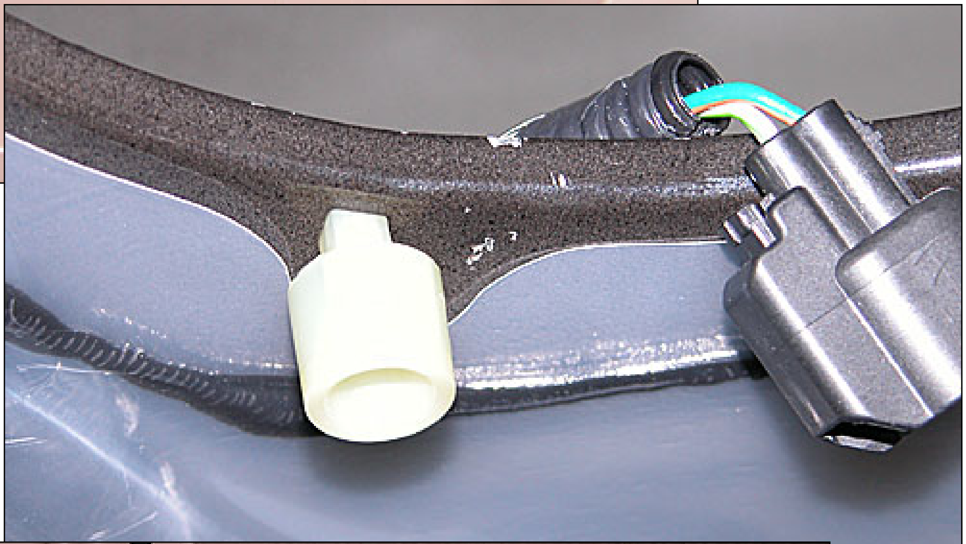


13. Next, gently pry outward on the large trim cover that goes over the door speaker.

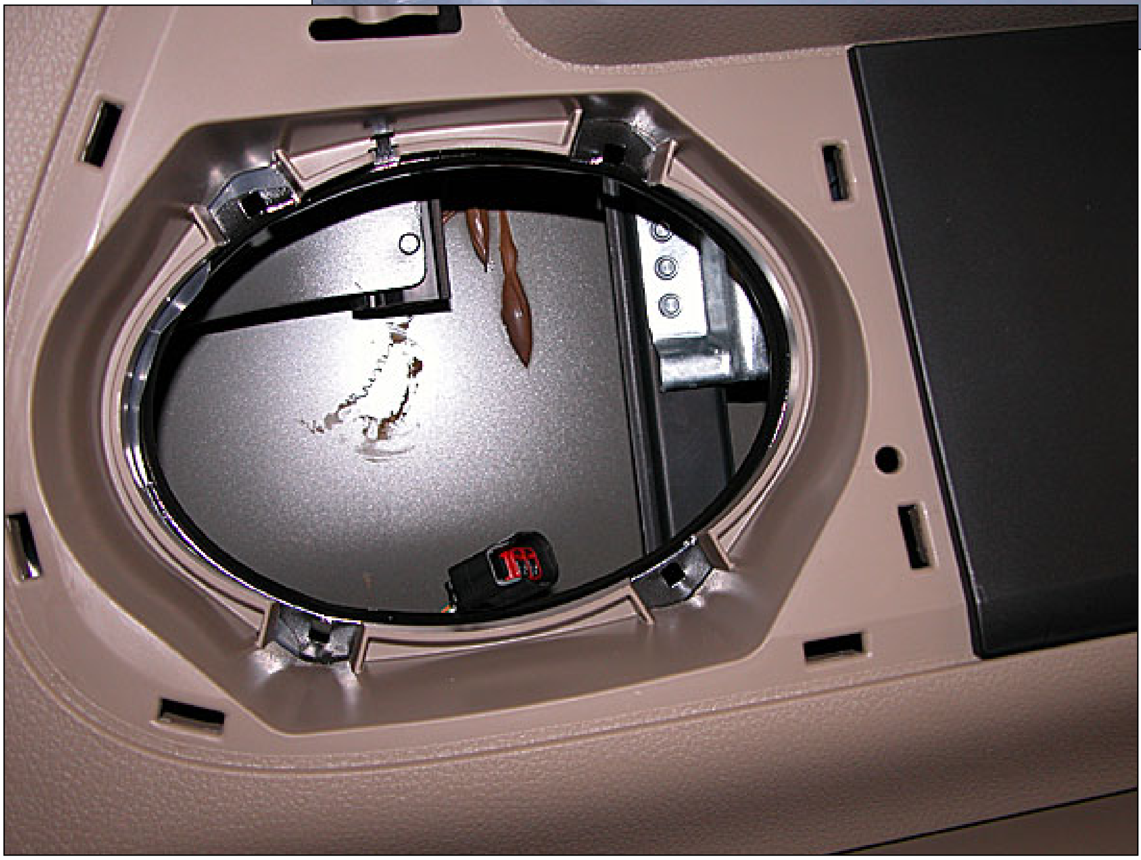


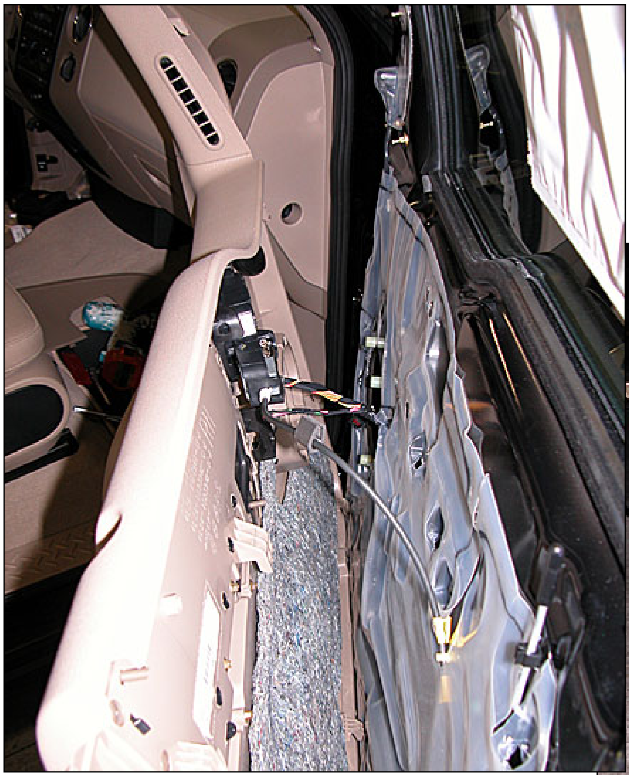
14. The four screws that hold the speaker to the door will need to be removed. You can now remove the speaker.



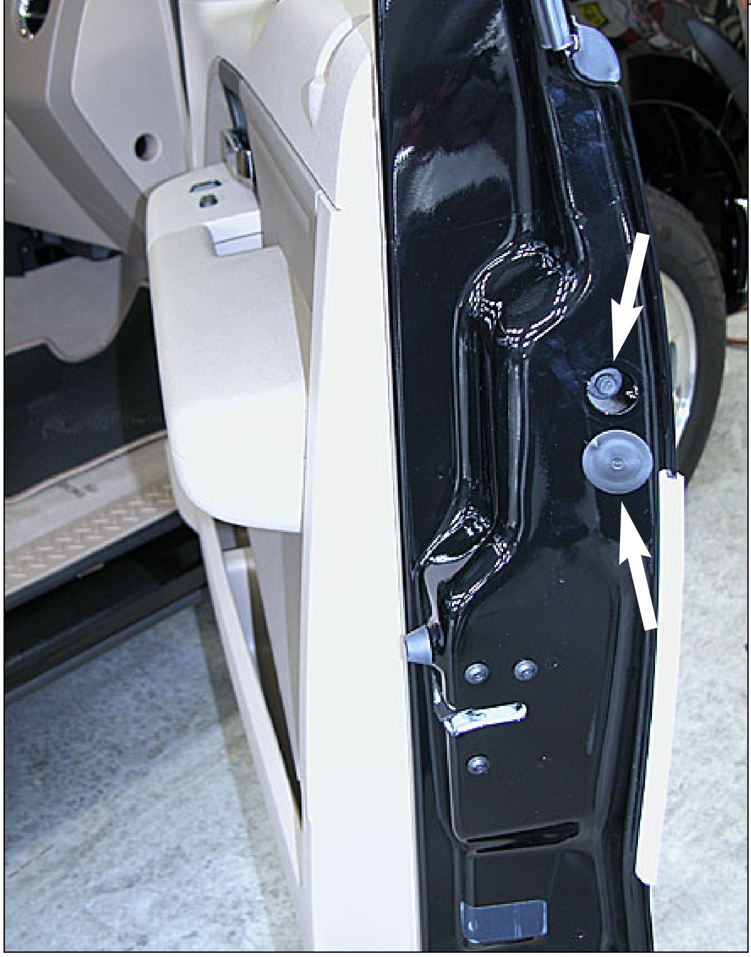


15. At this point, the four plastic grommets that the speaker screwed into will have to be removed. This allows for easier reattachment of the door panel when the time comes.



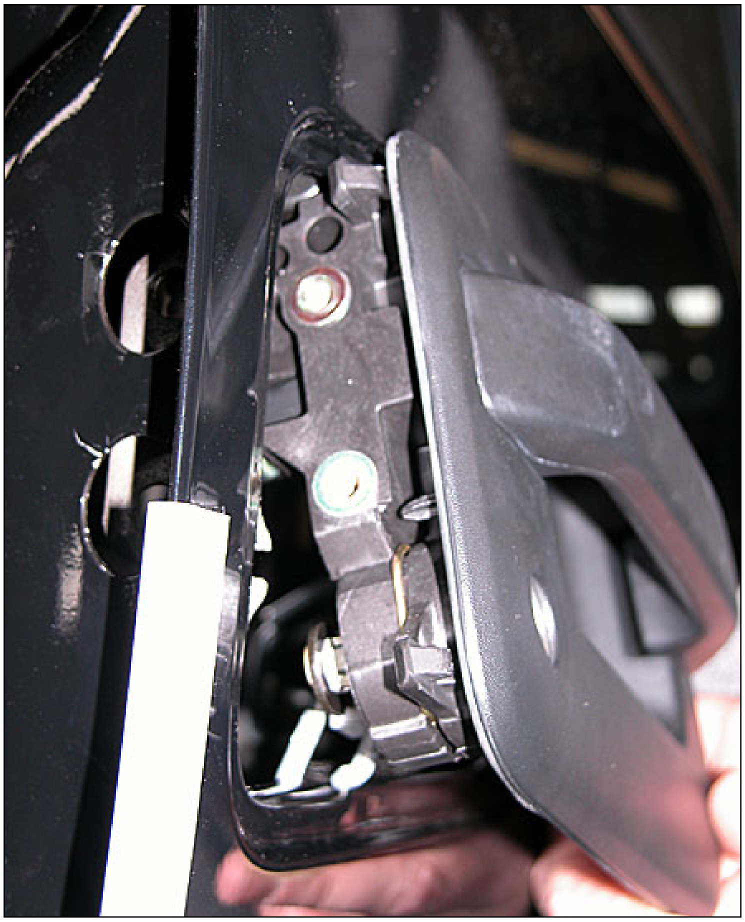


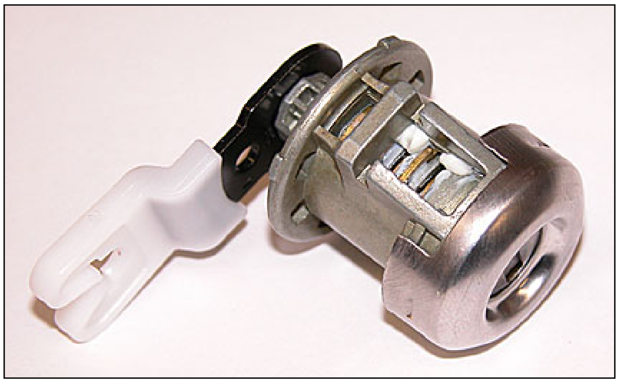
16. Using an upward lifting motion, the panel can be removed.



17. The easier approach than trying to remove the door lock is to loosen the entire handle assembly. There are four bolts holding the handle to the door. Two are found on the edge of the door, above the latch. The other two are accessed from inside the door panel.

18. **After removing all four bolts and disconnecting the lock linkage, the handle assembly can be moved outward and the "U" clip that secures the lock can be removed.**

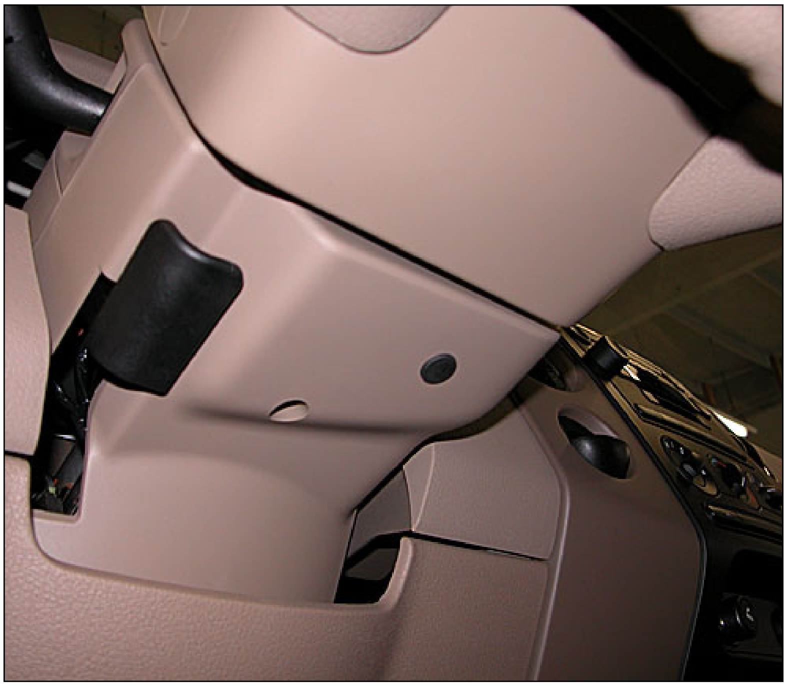




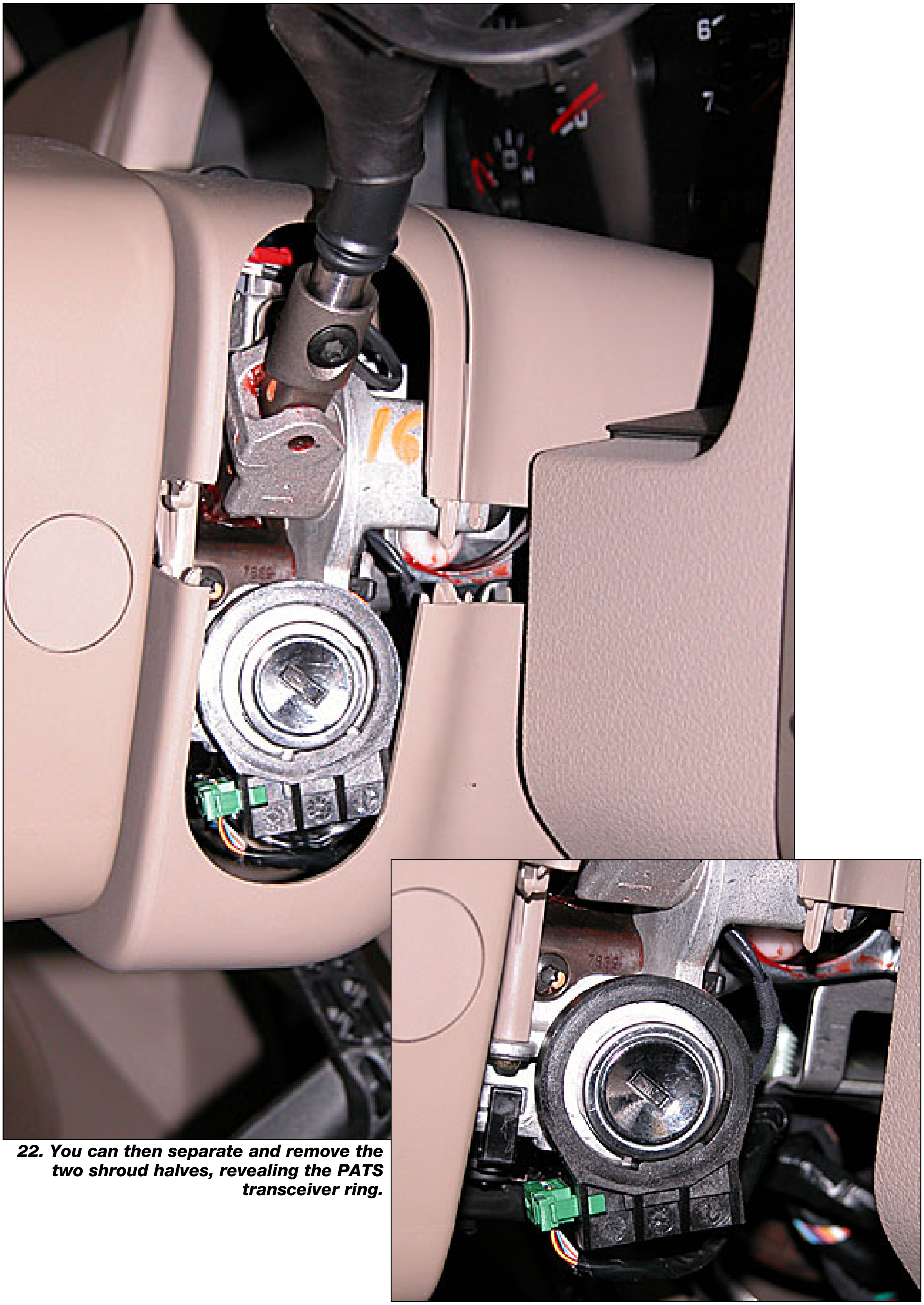
19. **The door lock has tumbler positions 1-6.**

Ignition Lock Removal

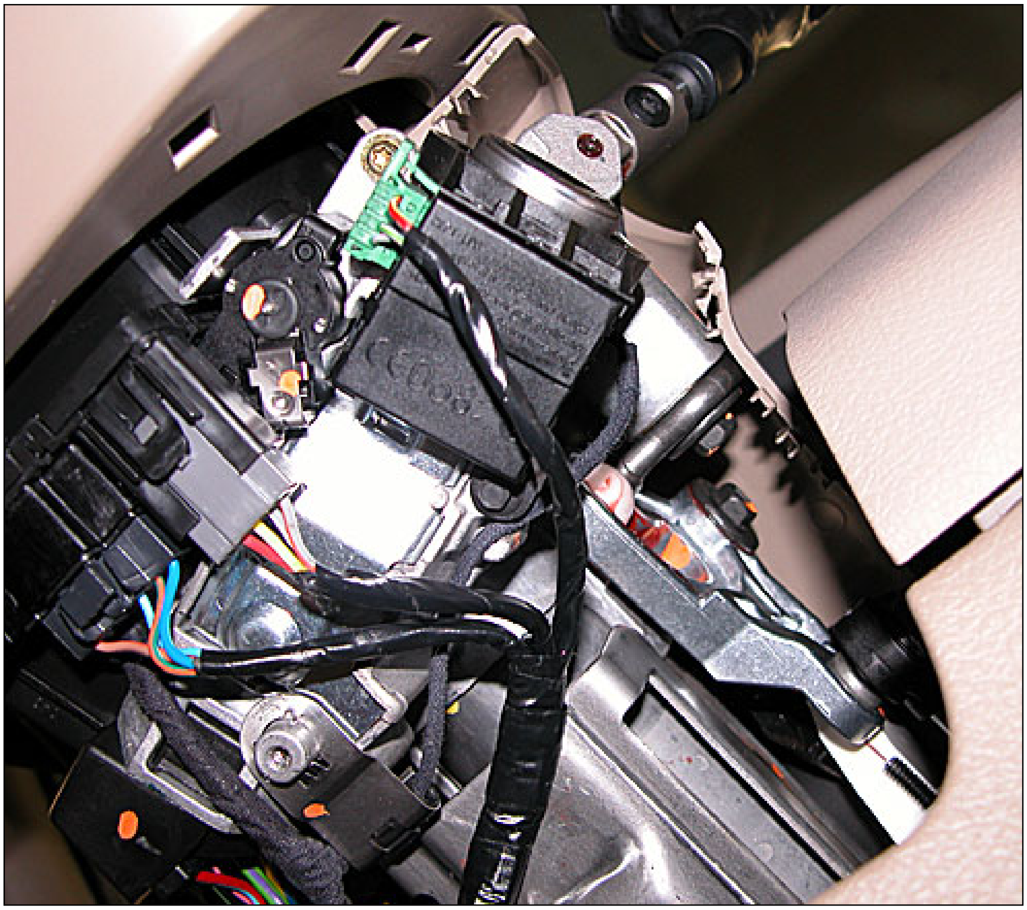
20. **The ignition lock on the 2004 F-150 is the second generation Strattec without sidebar #707592. This ignition uses an active retainer, so removal is not difficult if you have a working key.**



21. **Start by removing the two Phillips screws that hold the shroud together.**

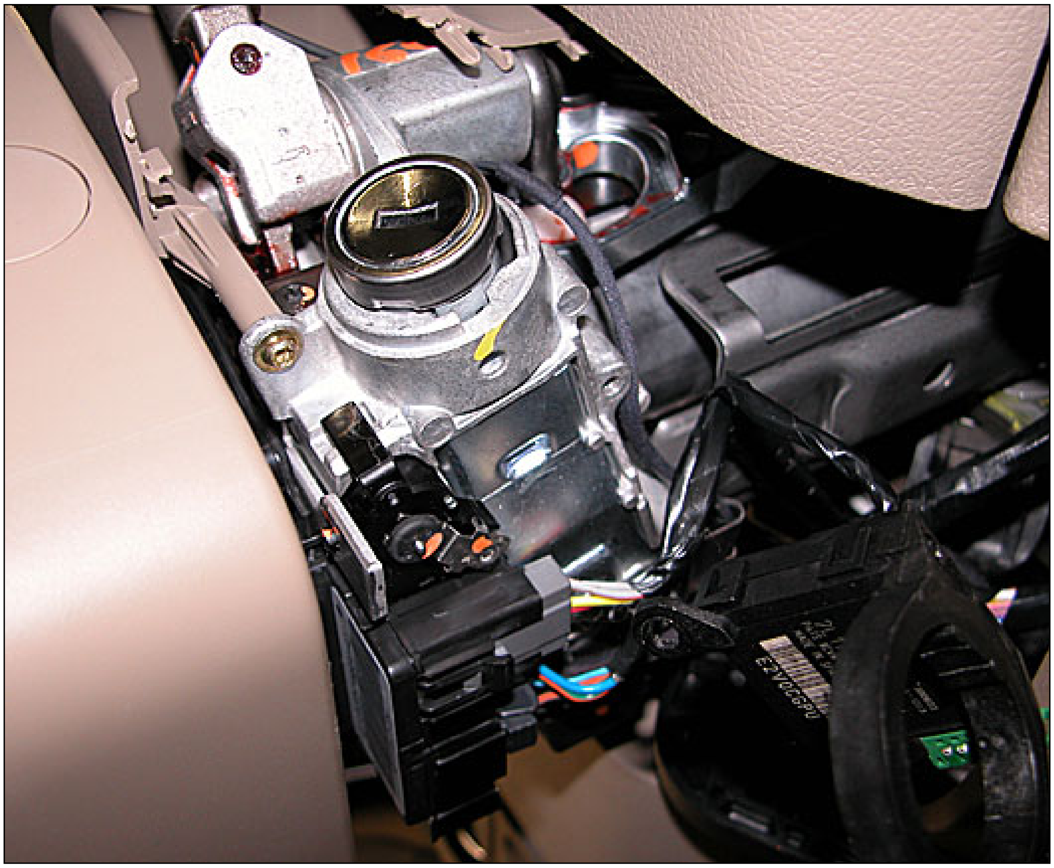


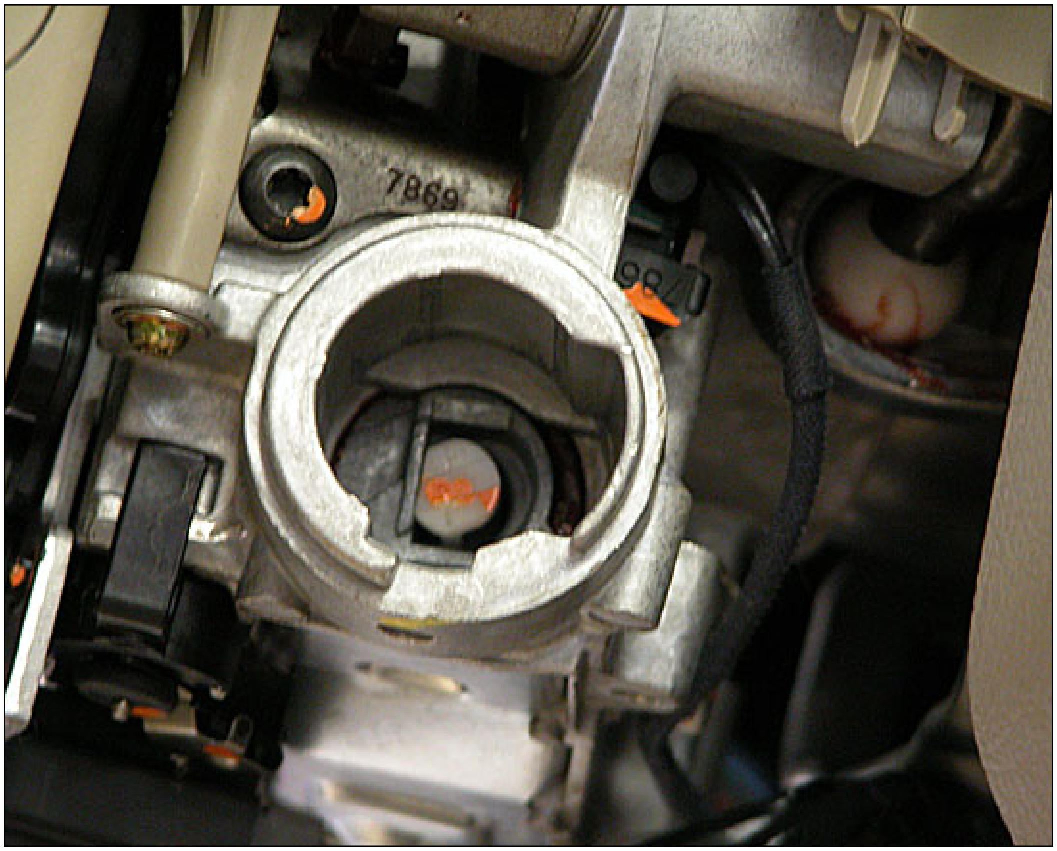
22. You can then separate and remove the two shroud halves, revealing the PATS transceiver ring.



23. Next, remove the 7/32" screw that holds the transceiver ring to the ignition housing and slip the antenna ring over the front of the lock.

24. You now have access to the active retainer. With the key somewhere between "Accessory" and "On" you can depress the retainer with a small poker and remove the cylinder.





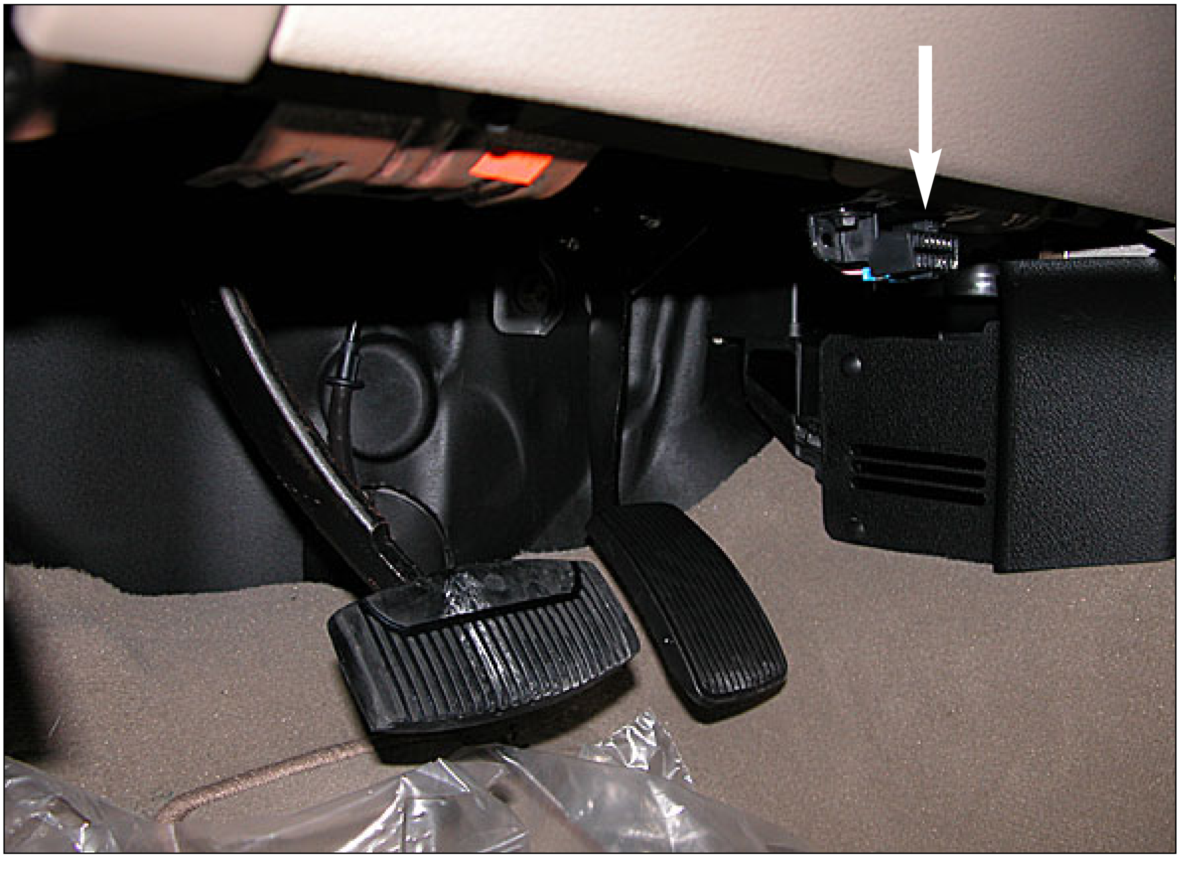
25. Note the anti-theft device in the housing. If the cylinder is pulled out forcefully, the safety device at the rear of the housing will engage, preventing the vehicle from being started. (As if the transponder system was not enough!) The ignition lock is disassembled easily. Begin by removing the large C-Clip on the back of the lock.

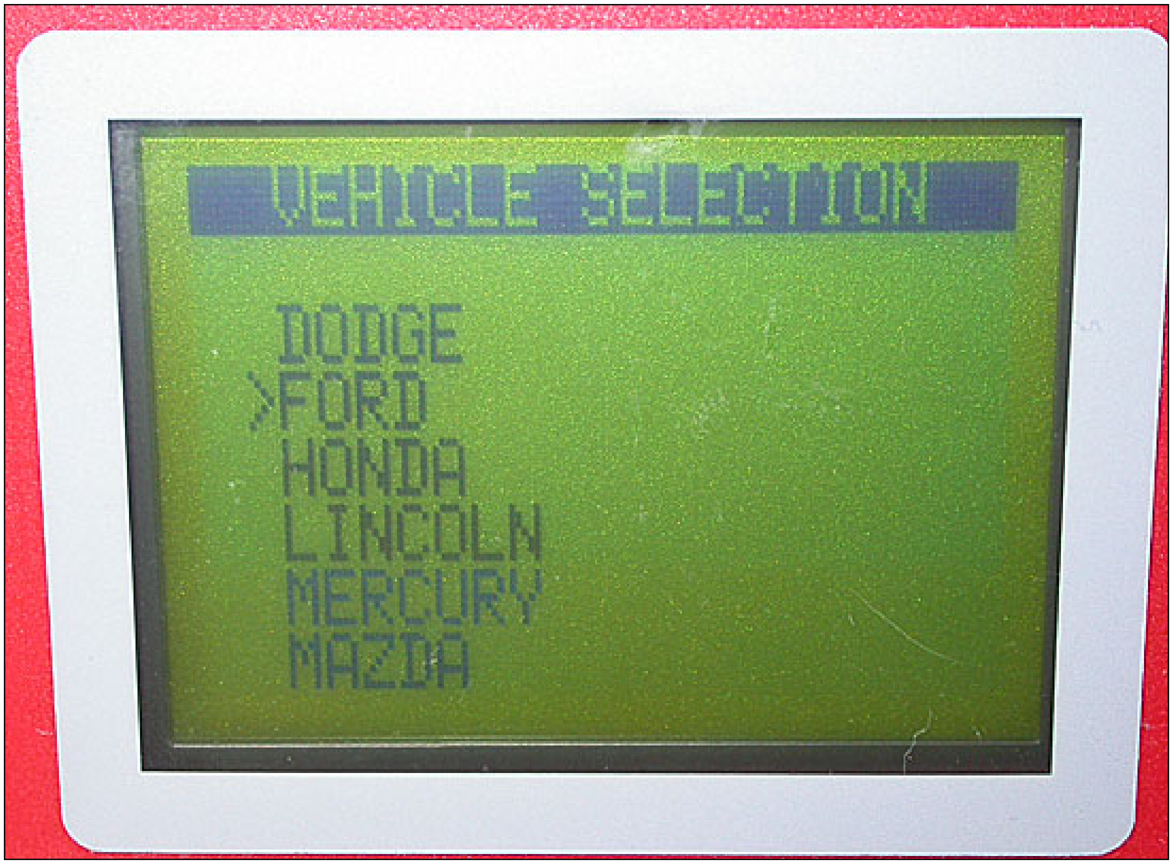
You will then need to use a working key cut off at the shoulder to insert into the lock and remove the plug out of the rear of the cylinder.

Wafer positions 1 and 3-8 are found in this ignition lock. Since this is the non-sidebar lock it uses Ford 8-Cut door wafers.

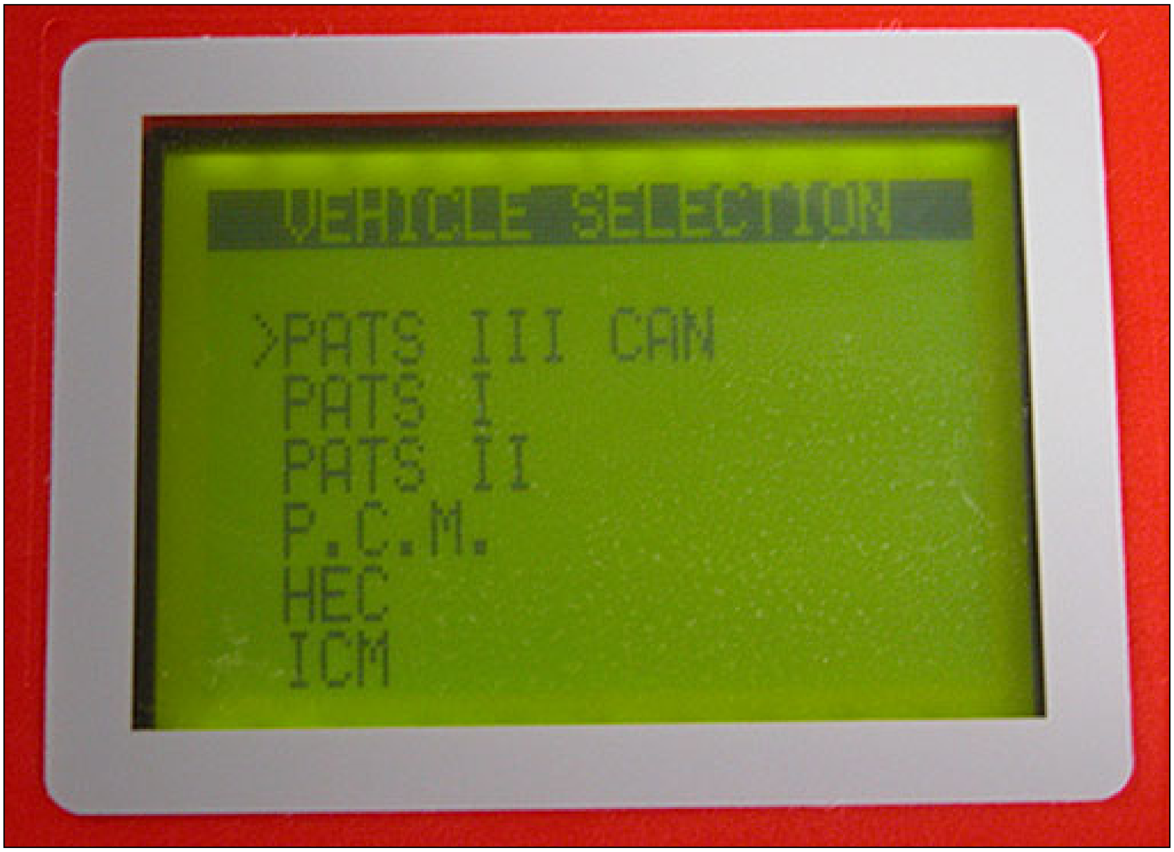
Programming the Ford CAN with the T-Code

26. The OBD-2 connector is located above the brake pedal.

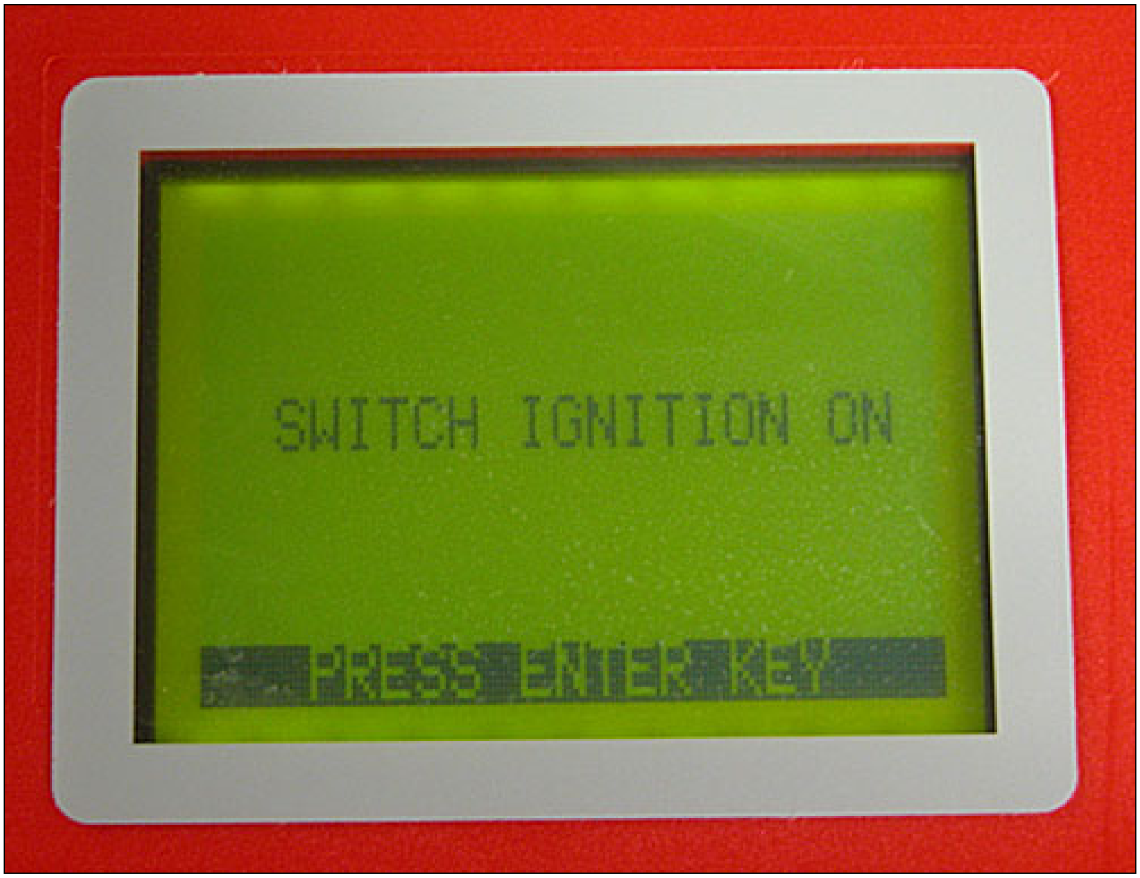




27. After connecting the T-Code and entering my password, select Ford from the list of vehicles. The correct keyblank is Strattec 599114.



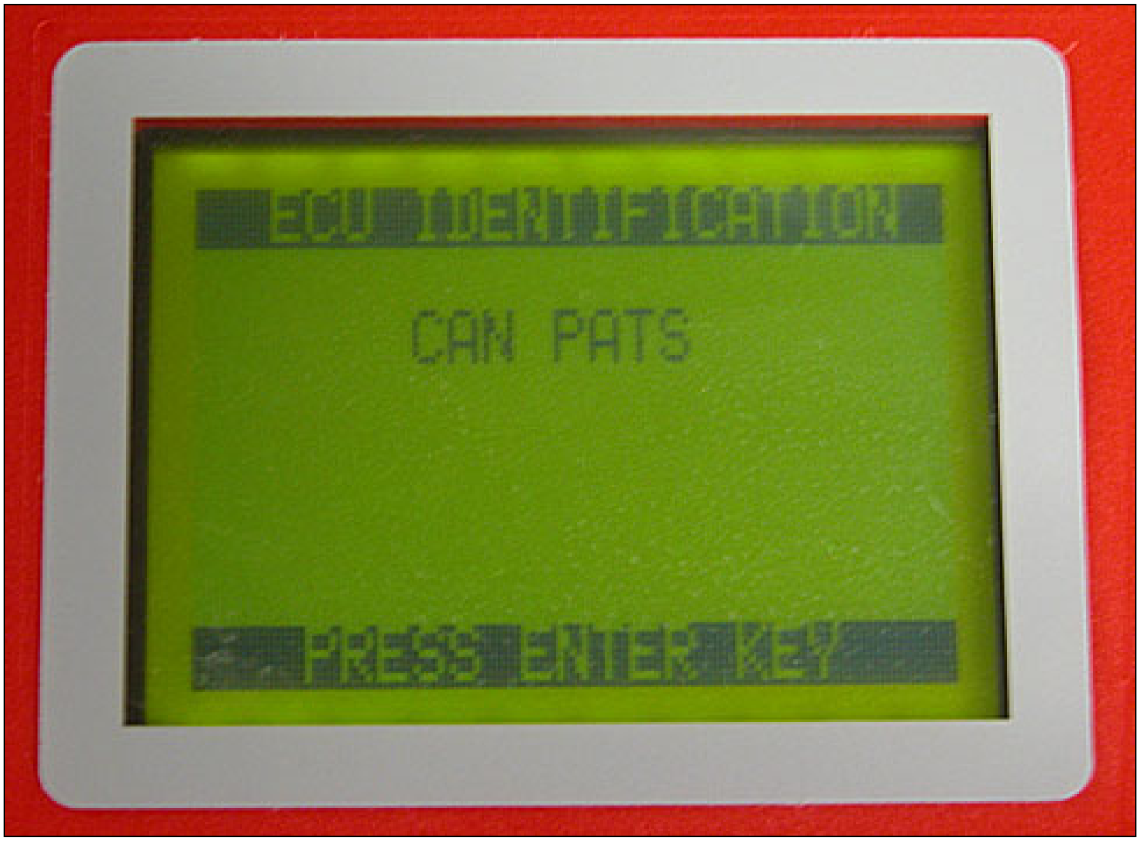
28. The correct protocol for this vehicle is PATS III CAN.



SWITCH IGNITION ON

PRESS ENTER KEY

29. Then switch the ignition on.

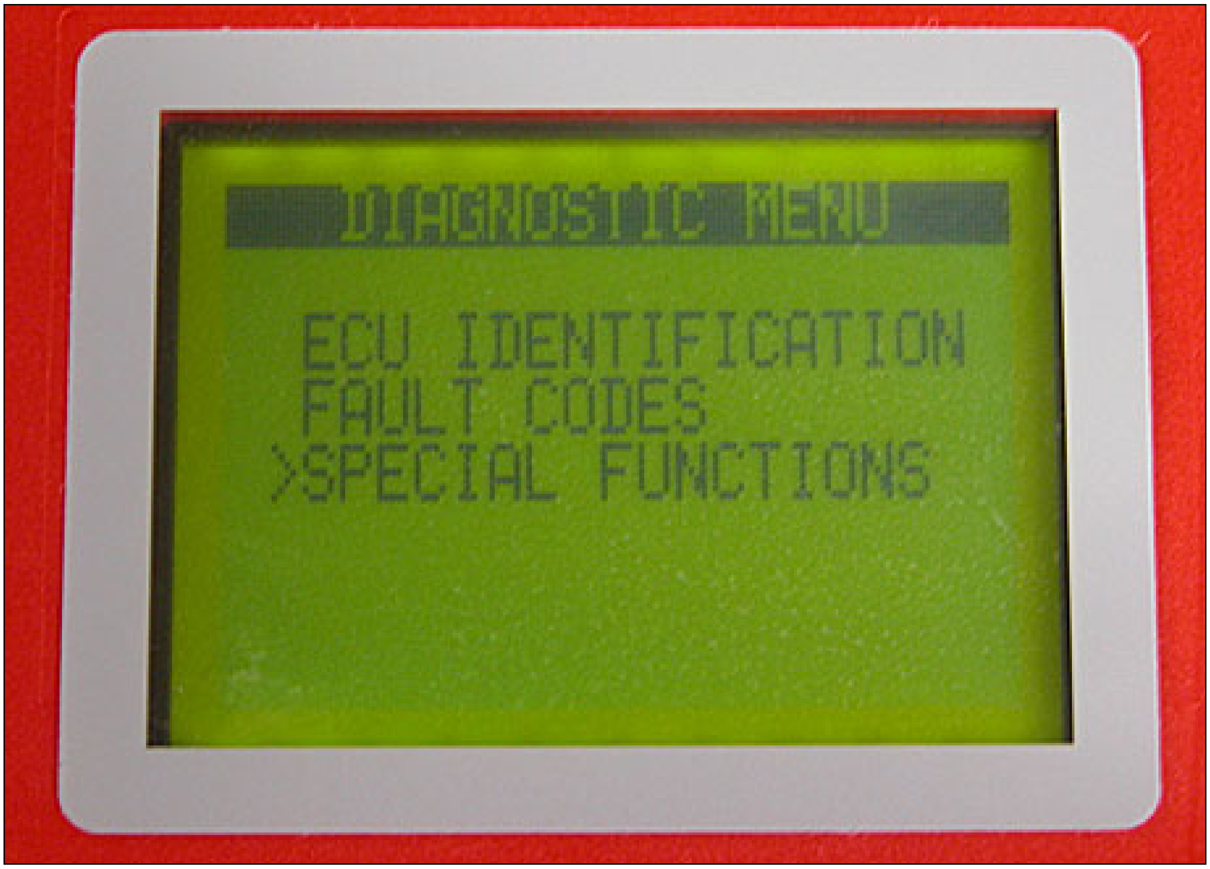


ECU IDENTIFICATION

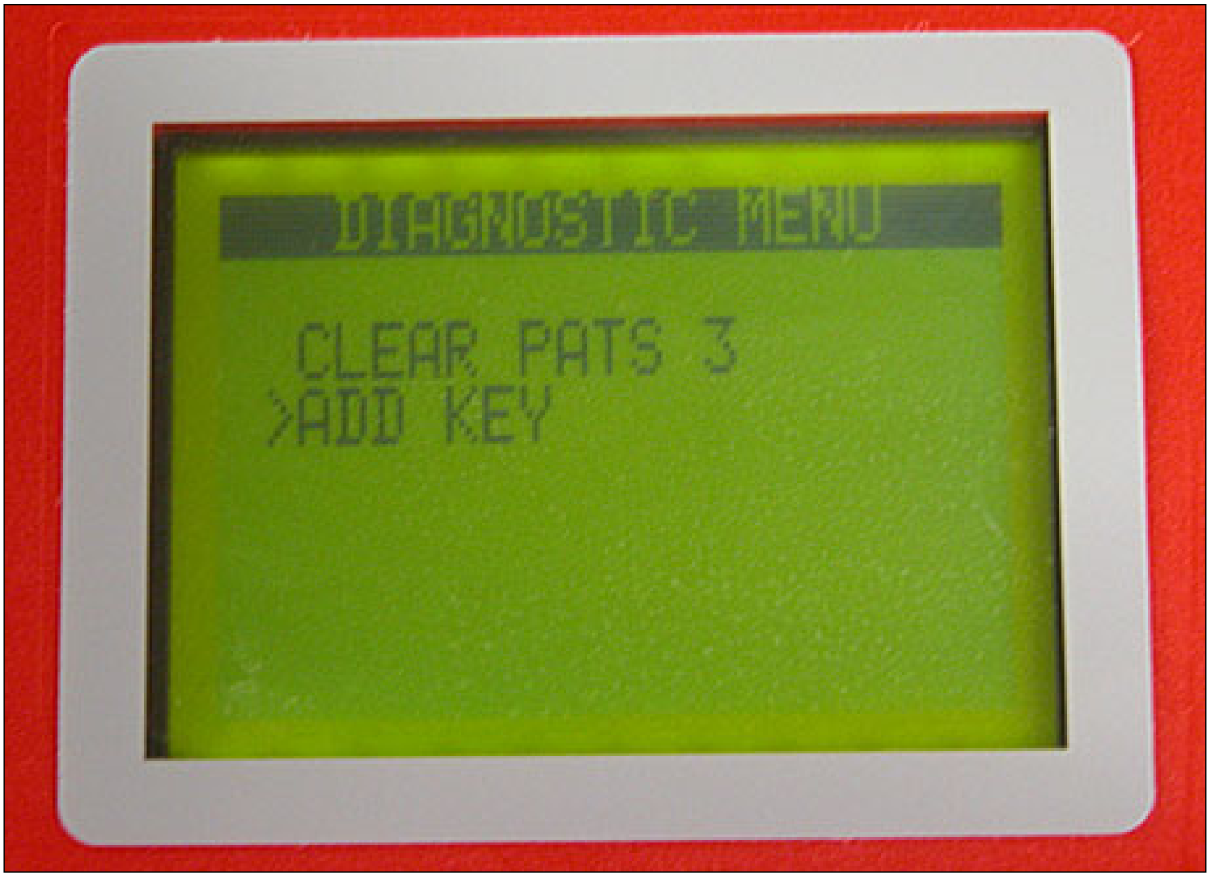
CAN PATS

PRESS ENTER KEY

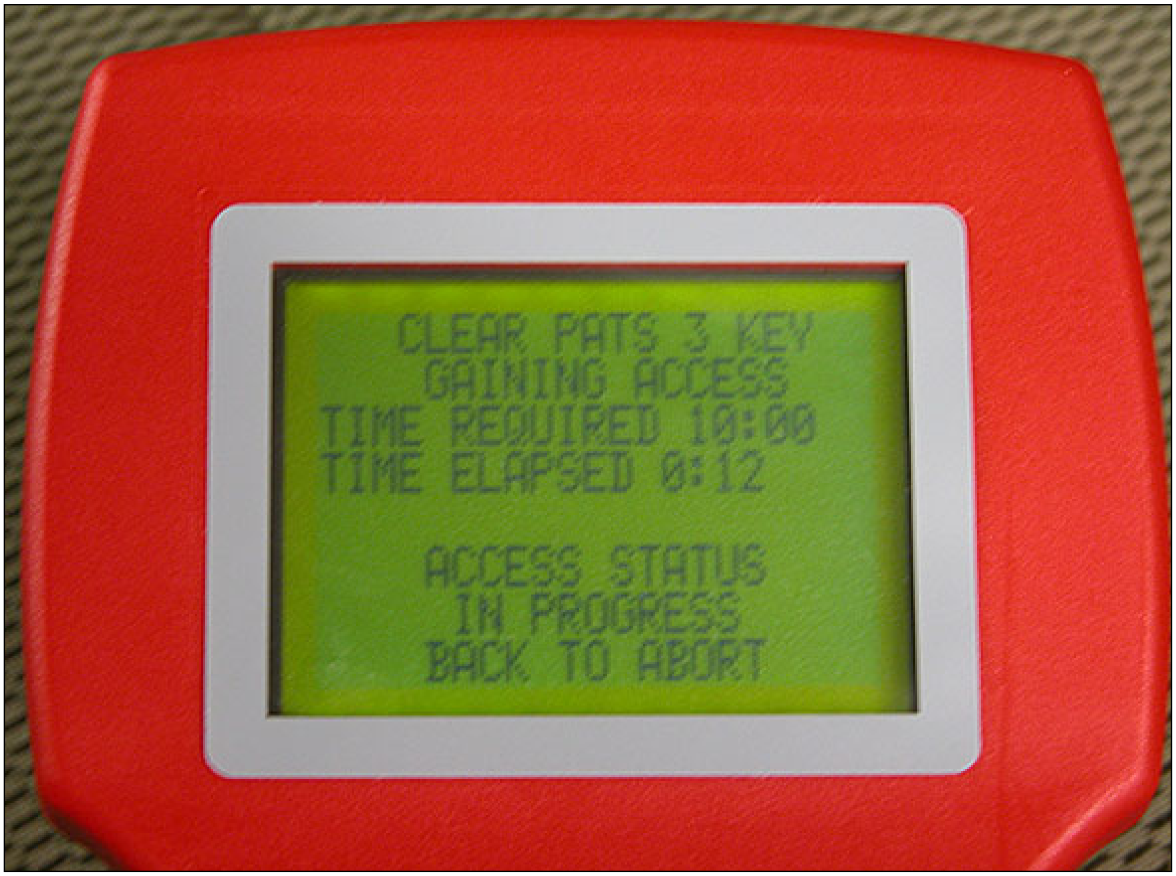
30. The T-Code has identified the system as CAN PATS and the key programming will begin.



31. Select "Special Functions".



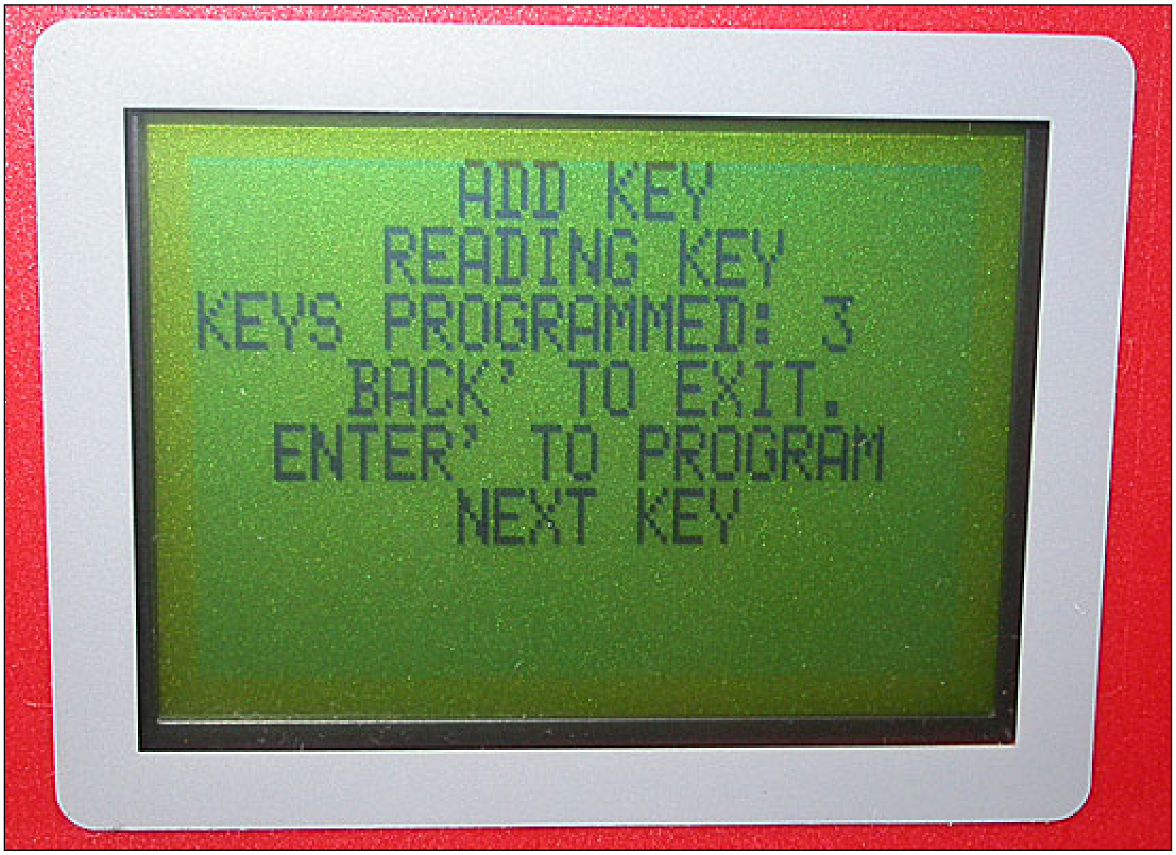
32. We now have the option to clear all keys or add one key.



```
CLEAR PATS 3 KEY
GAINING ACCESS
TIME REQUIRED 10:00
TIME ELAPSED 0:12

ACCESS STATUS
IN PROGRESS
BACK TO ABORT
```

33. Push Enter and the familiar 10-minute timer begins.



```
ADD KEY
READING KEY
KEYS PROGRAMMED: 3
BACK' TO EXIT.
ENTER' TO PROGRAM
NEXT KEY
```

34. After the timer reaches 10:00, the T-code informs us that access has been granted and the key is programmed successfully.